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— and —

First Aid Manual



Published by
THE VANCOUVER FIREMEN'S BENEFIT ASSOCIATION
Vancouver, B. C.

1919



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FOREWORD



In presenting this book to the public the Vancouver Firemen's Benefit Association does so with the hope of impressing upon the public the great and increasing necessity and importance of Fire Prevention. As two-thirds of our fires are caused through carelessness it is hoped that those receiving this book will become awakened to the great need of becoming Fire Prevention enthusiasts with a view to decreasing the great wastage caused by fire.

It is further hoped that the First Aid Methods as published herein will form a practical guide for the application of First Aid and may save life or limb and alleviate and minimize the pain and suffering for those who may be so unfortunate as to meet with accident or injury.

Our Association also wishes to express its thanks to the business concerns and individuals who have co-operated with us so generously in making this book a success and thereby adding a substantial sum to our benefit fund. This fund exists for the protection of firemen who, in the course of service, receive injuries or fall a prey to disease and to insure their lives for the benefit of dependents. The fund is maintained by the men themselves and is managed by a board of control elected from their ranks.

In serving the public the life of the firemen is one of peril. Fighting fires is hazardous work, and whether day or night, they are always subject to and ready for the call to duty and danger. Many accidents occur and the calls on the benefit fund of the Association are numerous.

The Vancouver Firemen's Benefit Association was formed on November 14th, 1898. Each member pays a small monthly assessment which, with the aid of its friends, has enabled it to progress and meet in an adequate manner the many demands made upon it.



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The Vancouver Fire Department

The Vancouver Fire Department was organized as a paid department on September 1st, 1889. J. H. Carlisle was appointed chief and the department consisted of two halls and fifteen men.

Since its inception the department has always kept pace with the times, and as Vancouver grew to be one of the leading cities of the Pacific Coast, the department developed until it is now considered one of the best equipped and most efficient fire departments in North America.

At present the department has 11 halls in service manned with the authorized strength of 187 men.

The Vancouver Fire Department was one of the first to adopt motor equipment. It began motorizing in 1908 with three pieces, three more were bought in 1909, two in 1910, six in 1911, three in 1912, two in 1913, three in 1914, one in 1915, three in 1917 and two in 1918. June 20, 1917, saw the last of the horses, the department being completely motorized.

The department now consists of 29 pieces of modern motor equipped fire fighting apparatus, one self-propelled steam fire engine and two steamers fitted with trailer connections. It also has 41000 feet of 2½ inch rubber lined cotton hose, 1000 feet of 3 inch rubber lined cotton hose and 2,100 feet of 1-inch chemical hose. There are 1,814 fire hydrants in the city.

The Gamewell Fire Alarm System was first installed in 1889 with 15 boxes. This has been added to from time to time until at present there are 300 boxes scattered over the city.

The Vancouver Fire Department was the first in Canada to adopt the two platoon system which went into effect on October 1st, 1918 and is proving very satisfactory.

Out of the 150 men on the department in 1914, 60 volunteered for military service, 22 of which were wounded and 11 were killed or died as the result of wounds.

The highest commendation is due those of the present administration of the department, and especially Chief J. H. Carlisle and Assistant Chief C. W. Thompson, who, by their untiring efforts have succeeded in giving Vancouver a Fire Department that stands second to none in America and one of which every citizen of the city is proud. Chief Carlisle first joined the old volunteer department in 1886 and has been chief of the present department since it was organized in 1889. Assistant Chief Thompson joined the department in 1895 and has been Assistant Chief since July 8th, 1902.

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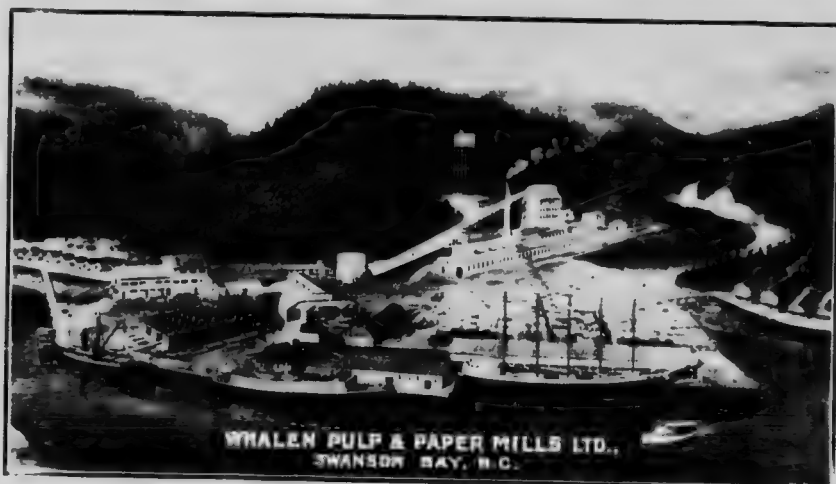
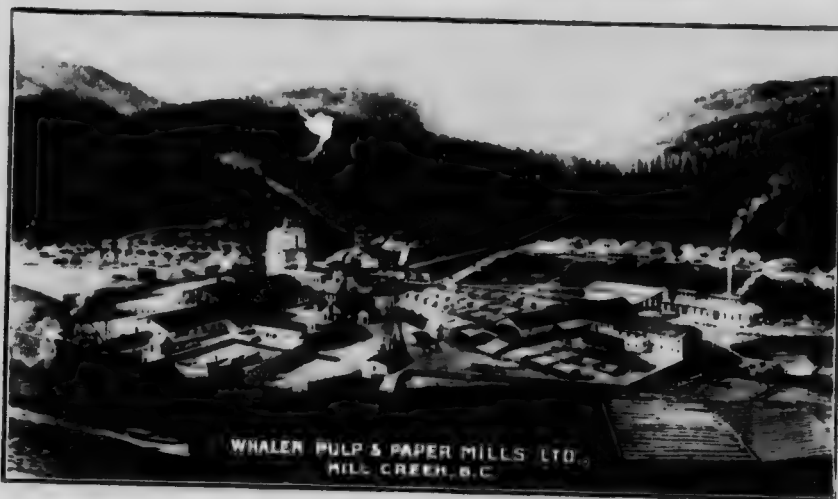


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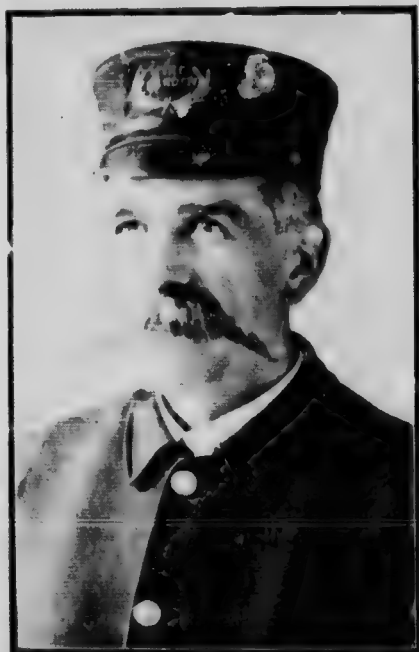
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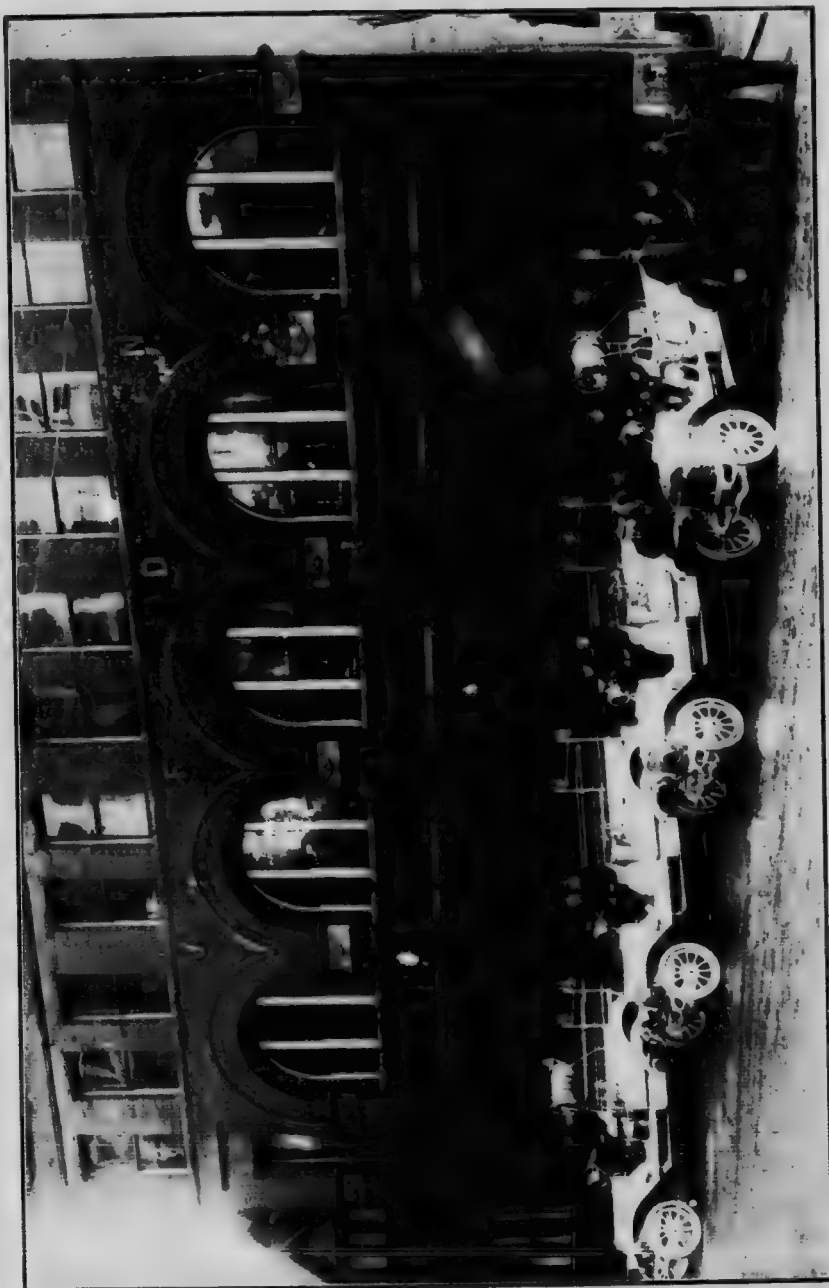
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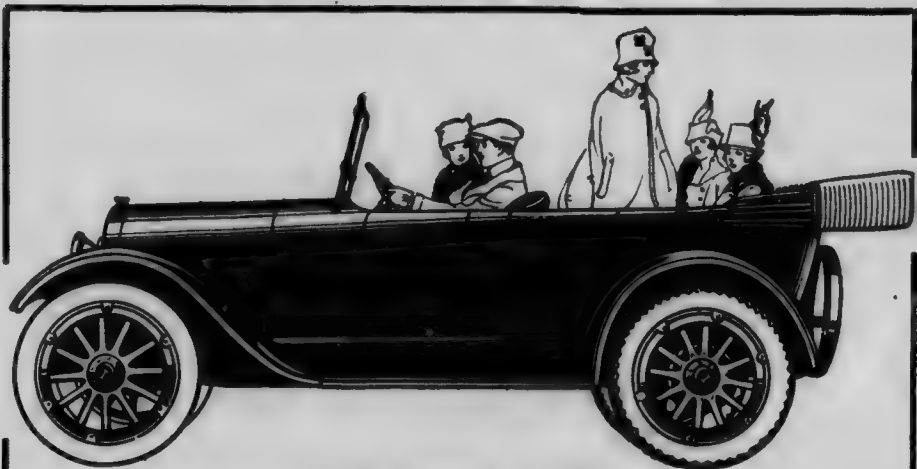
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FIRE PREVENTION

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FIRE WASTE IN CANADA.

Fire waste in the Dominion of Canada constitutes a problem of paramount and far-reaching importance. Continuation of the present tremendous loss of property and life by fire cannot but vitally affect the economic future of the country.

The public regards disastrous fires with but little concern, holding the popular but erroneous conception that the insurance companies pay the loss. The absurdity of such an assumption is manifest. They could not do so and remain solvent. In the event of a conflagration, such as that in Toronto in 1904, the insurance companies poured into the city \$10,000,000 that had been gathered from all parts of Canada. The people of Vancouver and of Halifax helped to rebuild Toronto. It is this comity of interests through fire insurance that enables recovery from the effects of fire.

Every individual in Canada is made to contribute directly or indirectly his or her share of the loss. The average policy holder is inclined to consider the question of fire insurance rates as affecting only the cost of the policies upon his own property. The fact is generally ignored that the price of every article necessary to existence is charged with a proportion of the fire cost. The tax is indirect and the exact amount is difficult to determine. The average consumer pays it unconsciously and, therefore, willingly. A loaf of bread bought at a retail store bears the cost of insurance upon the buildings and stock of a retail store, bakery, flour warehouse, flour mill, terminal elevator, country elevator and farmers barn. In this manner something is taken from the earnings of every man to pay the cost of fire; a portion of all labor and industry represents the unproductive effort of restoring values that have been carelessly destroyed. The burning every year of millions of dollars of created value increases the cost of living and is, therefore, of vital interest to the community.

There is a growing recognition of the fact that fire waste is needless and that definite measures should be taken for its avoidance.

To arouse the people against the fire foe is our greatest task. There is no difference regarding the essentials. The average citizen will admit that fire waste is in the nature of a national disgrace. The task is to make him do something to remedy conditions. It seems ridiculous that a people so eager to seek out and destroy the mysterious and hidden enemies of mankind should be so slow and sluggish in fighting a foe so plainly in sight and so readily vanquished. We have led the world in seeking out the causes of pestilence and removing them. We are in the vanguard of the battle against tuberculosis, typhoid and other malignant diseases. Still we stand apart and let the other nations lead in the fight against an enemy much more easily conquered.

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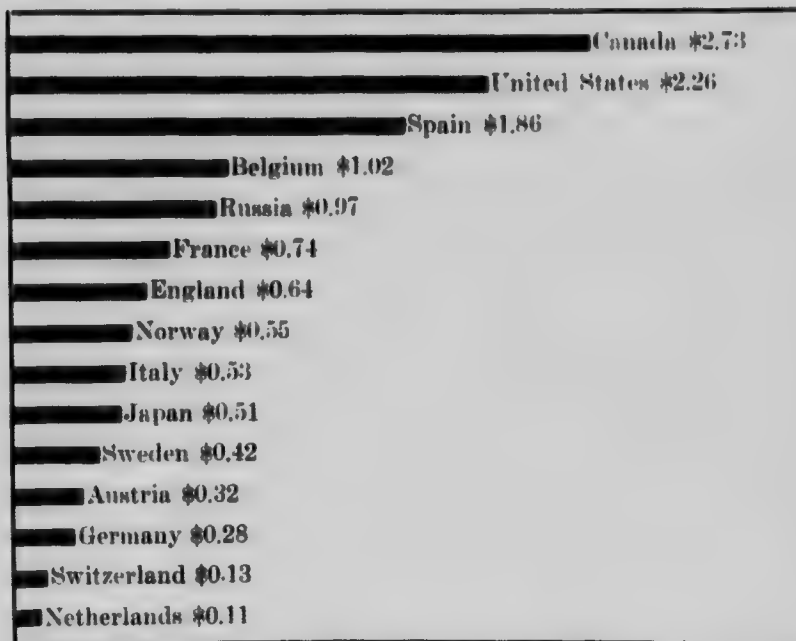
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FIRE LOSS IN CANADA COMPARED WITH OTHER COUNTRIES

The true significance of the fire waste in Canada can perhaps be best realized by comparison with the loss in foreign countries. From figures made available by the National Board of Fire Underwriters, it appears that the average per capita loss in Canada exceeds that of every other nation in the world. The actual comparison is graphically shown in the following diagram:



AVERAGE PER CAPITA FIRE LOSS IN CANADA, ENGLAND AND FOREIGN COUNTRIES, 1912-15

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As a period of four years is considered the minimum upon which to base conclusions of any value, the record covers that length of time. Owing to fluctuations in the amount of loss from year to year, it is obvious that reliable averages cannot be obtained from the figures for any one year. For a similar reason, figures for the year 1916 are omitted. Two fires, one destroying the Dominion Parliament buildings at Ottawa and the other sweeping northern Ontario, caused an aggregate property loss of approximately \$5,000,000, and increased the per capita loss of the Dominion for the year to \$3.40, as compared with an average of \$2.73 for the four preceding years. Therefore, to include 1916 figures, in any statement designed to show average conditions would be entirely misleading. From 1912 to 1915 no conflagration of extraordinary importance occurred, and it is believed these years fairly represent the present normal fire waste situation in Canada.

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EXCLUSIVE COSTUMIERS AND MILLINERS

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 You—Buy "Made-In-B. C." Goods.

BOILED right down"—that's this "trade at home" idea in a "nutshell."
 Every B. C. article you buy, means a B. C. Factory, employing B. C. men and
 women who in turn spend their money right here. And, when the article is
 without equal in its "line," all the more reason for your "home trading."

ROYAL STANDARD FLOUR

Is not only milled in B. C., but when "oven-tested" produces a bigger sized,
 better tasting loaf of home-made bread. Why not try this B. C. flour.

VANCOUVER MILLING & GRAIN CO., LTD.

Main Office and Mills, Vancouver
 Branches: Victoria, Nanaimo, New Westminster, Mission City

COMPARISON OF OVERHEAD INSURANCE CHARGES

To illustrate in a concrete manner the extra overhead charges imposed upon the Canadian manufacturer through the excessive cost of insurance, English and Canadian rates on a number of specific industries are compared in the following table:

Class of property insured	Rates in England	Rates in Canada
	Per \$100 per annum	Per \$100 per annum
Biscuit factory	\$0.37 cents	\$1.80
Boot and shoe factory	0.47 "	2.05
Brewery	0.10 "	0.90
Clothing factory	0.17 "	0.87
Flour mill	0.53 "	2.75
Fur garment factory	0.45 "	1.45
Harness factory	0.17 "	1.45
Hat factory (felt)	0.42 "	1.50
Hat factory (straw)	0.37 "	1.63
Machine shop	0.15 "	1.00
Planing mill	1.25 "	3.18
Tannery	0.37 "	1.52
Whitewear factory	0.15 "	0.85
Wood box factory	1.57 "	3.10
Woolen mill	0.92 "	3.25

THE CONTROL OF FIRE WASTE

Consideration of the basic differences between fire waste conditions in Canada and foreign countries leads to the conclusion that, in this generation, we cannot hope to approximate the same standards as Europe. The mass of timber construction, climatic conditions, the restless, mobile character of the population, are three sufficient reasons, apart from incendiarism and carelessness. Nevertheless, the present rate of loss can be greatly reduced by placing proper emphasis upon preventive measures.

Fire prevention in its larger significance aims at control of the three great sources of all fires, physical, occupational and personal. It seeks to compel a proper construction of buildings and the safeguarding of hazardous features in buildings. It aims to correct personal negligence in regard to fire dangers and to discourage incendiarism by urging rigid investigation into the causes of all fires. While it is improbable that such laws as obtain in Europe in regard to the control of fire will ever become enacted in Canada, there is a pronounced and growing tendency to curb public evils by statutory intervention. In our complex modern life, proper legislation and its effective enforcement have been found essential to produce any real control over the things that should be repressed in the common interest and for the common good.

In the treatment of no other subject affecting public welfare has Canada tarried so long as it has in the field of fire prevention. Canadians have had such a fund of natural wealth and believe so thoroughly in individual freedom that they have not felt the need of economy nor have they been willing to circumscribe personal liberties. The fire waste has become, however, an economic burden that not even the wealthiest country can long afford.

THE YORKSHIRE & CANADIAN TRUST LIMITED

H. W. DYSON - - General Manager

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Intending purchasers of homes and homesites should not fail to consult the "Yorkshire," who own or control a large number of desirable properties in the City and Suburbs.

The "YORKSHIRE" is at your service.

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DALE & COMPANY LIMITED MARINE AND FIRE UNDERWRITERS



Montreal—Toronto—Winnipeg—Halifax—Vancouver
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CHIEF CAUSES OF FIRE WASTE AS GIVEN BY INSURANCE INTERESTS.

A questionnaire was sent to 179 fire insurance companies, 92 general agents and 38 loss adjusters by the Commission of Conservation asking: What they considered the principal causes of Canada's large fire waste? The answers were intelligible and complete and have been classified as follows:

	No. of Replies in which Specified
Carelessness—	
Carelessness in general.....	66
Matches	32
Smoking	23
Accumulations of rubbish	23
Indifference because of insurance.....	18
Hot ashes in wooden receptacles.....	14
Careless handling of gasoline.....	14
Lighting fires with coal oil.....	12
Ignorance of fire hazards.....	9
Total.....	211
Insurance—	
Moral hazard	24
Non-inspection of property by agents.....	19
Attitude of courts toward fraudulent claims.....	14
Over-insurance	13
Unscrupulous agents	13
Fire insurance in general	12
Too prompt payment of losses.....	12
Over-payment of losses	11
Agents' desire for large commissions.....	8
Inexperienced loss adjusters	6
Adjusters for the assured	5
Total.....	137
Building Construction—	
Poor construction in general.....	35
Defective chimneys	34
Shingle roofs	29
Frame buildings	17
Exposure	13
Total.....	128
Inadequate Laws—	
Want of laws to fix personal responsibility.....	21
Inadequate building by-laws	16
Lack of municipal inspection laws.....	16
Poor enforcement of building laws.....	15
Lack of investigation of causes of fires.....	12
Indifference of municipal councils.....	11
Lack of regulations in regard to explosives and combustibles	8
Total.....	99

THE CANADIAN BANK OF COMMERCE

CAPITAL \$15,000,000

RESERVE \$15,000,000

BANKING BY MAIL

This Bank will open a Savings Account in your name and your deposits and withdrawals can be made entirely by mail. Interest is allowed at the current rate. Write for particulars to any of the under-mentioned Branches in the Vancouver district:—

Main Office:

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194 Hastings Street West.

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501 Main Street.

Commercial Drive Branch:

1660 Commercial Drive.

Fairview Branch:

2148 Granville Street.

Kitsilano Branch:

2199 Fourth Avenue West.

North Vancouver Branch: Lonsdale and Espinasse.

Mount Pleasant Branch:

2400 Main Street.

Powell Street Branch:

1901 Powell Street.

South Hill Branch:

6195 Fraser Avenue.

THE MOLSIS BANK

Incorporated 1855.

Head Office: Montreal.

Paid-up Capital - \$ 4,000,000

Reserve Fund - 4,800,000

Assets over - 77,000,000

Over 100 Branches throughout
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418 Howe St.

**Real Estate
Insurance and
Financial
Agents**



When?

When a man's property is damaged by fire he asks himself two questions:

First—Is my insurance good?

Second—When can I get the money?

If he has one of our insurance policies, the first question need cause him no worry, for that policy is backed by many millions and a reputation for "square dealing."

The second can be answered in one word—immediately. The insurance company pays cash without discount directly upon the adjustment of any honest loss.

LET US WRITE YOUR INSURANCE

CANADIAN FINANCIERS TRUST COMPANY

General Manager: LIEUT. COL. G. H. DORRELL.

833 Hastings St. W.

Phone Sey. 5960

Vancouver, B. C.

	No. of Replies in which Specified
Heating and Lighting—	
Defective electric wiring	25
Defective stovepipes	23
Defective furnaces	21
Defective gas appliances	4
Over-heated stoves and furnaces	8
Unprotected gas jets	3
Total	84
Public Fire Protection—	
Inadequate fire protection	14
Defective fire protective appliances	12
Total	26
Miscellaneous—	
Lightning	25
Climatic conditions	18
Total	43

MR. MANUFACTURER AND MILL OWNER

It is your duty to safe-guard your property against loss by fire, and particularly, it is necessary at this time when resources must be conserved. This applies to all productions, more especially to that of food-stuff and every safe-guard should be applied to prevent fire destroying that which is, and will be greatly needed to supply the requirements of our people.

INSPECT your premises regularly. Correct all defects, take the utmost precaution against loss by fire and make preparation to safeguard your property by preventing fires.

MR. MERCHANT

Do you know that you are in part, responsible for the higher rates of insurance premiums by not giving more attention to the prevention of fire? Rates are based on construction of buildings; occupancy; lighting; area; police system; fire department; watchmen; pavements; widths and condition of streets and general condition of surroundings, and particularly of individual properties. Clean up your premises, and keep clean. Remove all waste and destroy it under proper supervision. No one can honestly foretell a loss by fire. It comes when least expected and when least prepared.

DON'T be in the unprepared class. Make Fire Prevention your business. It will pay good profit, and save loss of trade which becomes scattered as the inevitable results of fire loss.

MR. EMPLOYEE

A fire in the establishment where you work may mean its destruction and cause you and others to lose their positions and income derived therefrom. You certainly don't want such a calamity to happen and should interest yourselves in seeing that it does not, by means of prevention.

DON'T permit waste or other fire breeding material to accumulate in or about where you are working. Talk to your fellow-workers, point out the danger and loss from fire and induce them to use care and precaution to prevent fires. Don't do this for a limited period only, but be constantly on the watch for any defects or conditions that might cause fire and see that they are removed.

The Royal Bank of Canada

INCORPORATED 1869

Capital Authorized	- - -	\$ 25,000,000
Capital Paid-up	- - -	14,000,000
Reserve and Undivided Profits	- - -	15,500,000
Total Assets	- - -	427,000,000

HEAD OFFICE, MONTREAL

SIR HERBERT S. HOLT, President.
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530 Branches in Canada, Newfoundland, British West Indies, Cuba, Porto Rico,
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Business Accounts carried upon favorable terms.
Savings Department at all Branches.

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Capital Paid Up, \$1,000,000
Reserve Fund, \$900,000

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signee, Liquidator, Curator, Re-
ceiver, Trustee for Bondhold-
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cial and Municipal Bonds



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HOUSEKEEPERS

Stop awhile from pleasure and clean up your homes and aid in the prevention of fires.

STOP piling rubbish, trash or waste in cellars, back-yards or streets.

STOP using other than safety matches.

STOP putting ashes in wooden boxes; use metal cans.

STOP filling oil or gasoline stoves or lamps when lighted.

STOP hanging clothing or draperies near open fires or stovepipes or steampipes.

STOP starting fires in furnaces or stoves without seeing that they are properly put up, and see that chimneys and flues are clean.

A FALSE IMPRESSION

Many merchants on finding their store property on fire have ordered people to keep away from the stock, fearing complications when the adjuster arrives at a later date. The property owner must do all in his power to save as much of his stock as possible.

In case a fire breaks out in a mercantile risk, organize a salvage corps to remove as much of the stock as possible to a place of safety.

TIMELY WARNING

Two-thirds of the fire waste is caused by carelessness, neglect and indifference. This can be overcome by cleanliness and attention to conditions, and is the first step towards effective fire prevention.

Aid in Fire Prevention—It means saving of life and property and dollars.

CHILDREN AND MATCHES

Children playing with matches have caused a great many fires in this province resulting in both loss of property and loss of life. Parents should instruct their children regarding the danger of playing with matches. Keep matches out of the reach of children.

COAL OIL

Starting a fire with coal oil is a most dangerous practice and should be discontinued. Read the following newspaper clipping from the **Regina Leader** of August 21st, 1918.

"Moose Jaw, August 21st.—Kerosene thrown on the kitchen fire in order to hurry up the supper caused a tragedy here last night in the home of J. Mitchell, 715 Athabasca Street, west. The baby of the family about four years of age was so frightfully burned that it died just before midnight. The mother who is in the general hospital, in addition to terrible burns is suffering from a severe mental shock. Her condition is serious and perhaps may prove fatal, as she is badly burned on the body and arms. A third child about ten years of age was slightly burned about the arms and hands. The father is an employee of the Robin Hood Mills and was at work when the fire occurred. He arrived in time to accompany his wife and child to the hospital in the ambulance."

The Fire Commissioner has received many reports similar to this. Will you allow coal oil to be used in starting fires in your house?

BANK OF MONTREAL

Established over 100 Years

Capital Paid Up	\$16,000,000	Undivided Profits	\$ 1,901,613
Reserve	\$16,000,000	Total Assets	\$558,113,516

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and

FIRE ASSOCIATION OF PHILADELPHIA

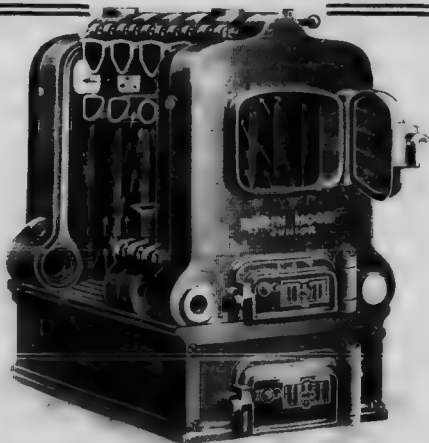
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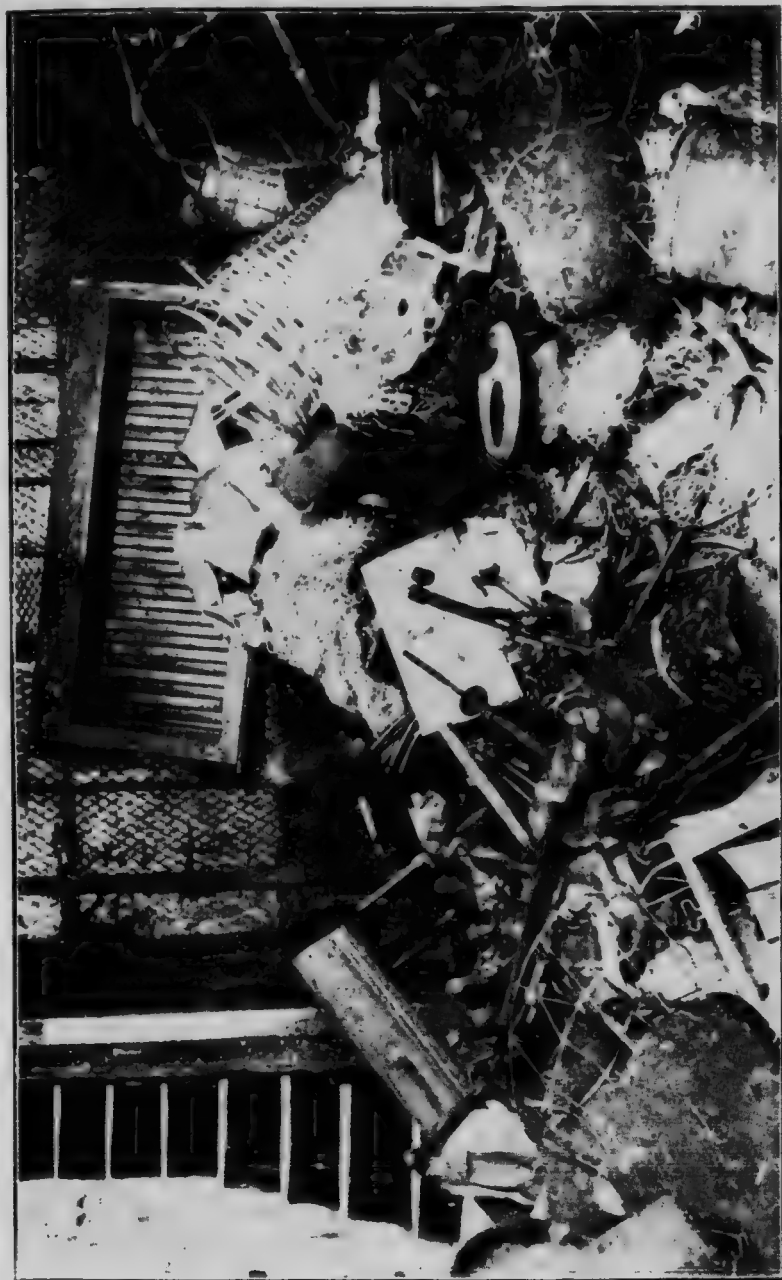
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Tugs, Scows, Builders' Supplies

1083 MAIN ST.



WHY INSURANCE RATES IN CANADA ARE HIGH

Carelessness causes seventy per cent. of Canada's losses. The above conditions were discovered in a basement two days after insurance policies for \$23,000.00 had been issued upon the contents of the building.

The NAME is easy to remember; the FLAVOR is hard to forget.

KELLY,
DOUGLAS &
CO., LTD.,
VANCOUVER



SORE THROAT

SORE throats are often the forerunners of serious diseases and "NATIONAL BRAND" Hydrogen Peroxide of full strength, or diluted to one half and used as a gargle or spray will be found of great value in cases of sore throat, and will help to prevent such serious diseases as quincy, tonsillitis, diphtheria, whooping cough, La Grippe, etc.

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*"Delicious and
Nutritious"*

Cook this Wheat Porridge to your own taste

It is not pre-cooked, nor is any of the goodness of the wheat taken away.

**B & K WHEAT
FLAKES**

makes an exceptionally tasty porridge that has all the body-building elements of whole wheat.
Try a package—most users come back for more.

**The Brackman-Ker
Milling Co. Ltd.**

Canada Food Board License
Nos. 2-027-32-43-46-47-50

HOW TRASH MAKES FIRES

A pile of trash that has been lying around all winter is as dry as tinder. A spark and a little breeze are all that is necessary to start trouble. The spark may come from a match thrown down, or from a cigarette cast aside, or from your own or neighbor's flue.

A spark, however, is not always necessary. There is such a thing as spontaneous combustion. Lots of people don't realize that inanimate objects can set themselves on fire. Any one who has been in a chemical laboratory does realize how simple a matter it is. In piles of trash or old rags a process of decay sets in that under certain conditions it is quite likely to produce heating, and sometimes, in the end, fire. Greasy or oily rags are susceptible to this process.

Thus every pile of trash and every accumulation of old clothes or rags, whether in the attic, the cellar or the yard, is a constant menace to the home.

The horse-shoe of luck may not always hang over the barn that "never has had a fire."

PREVENTING FIRES

Defective heating apparatus has been responsible for a very large proportion of the fires which have occurred in this province. Every householder should look over his furnaces, stoves, chimneys and stove pipes to see that they are in good condition. Stop and think for a moment what a fire really means; think of the loss of your house with all its contents, think of the cost of replacing it, think of the loss which you will suffer even if you do carry insurance. Is it not worth while to spend an hour or so looking over your heating apparatus so that it may be in good condition. Safety first. Consider carefully the following questions:—

Have you a metal stove board under the heating stove?

Is all woodwork within two feet of the stove protected?

Is the stove free from cracks and breaks?

Is the stove pipe clean, sound and perfectly jointed and rigid?

Have you protected all wood-work within eighteen inches of the stove pipe?

Is there a double ventilator thimble around the pipe where it passes through a partition?

Is the chimney clean, is it free from cracks, and is the mortar between the bricks still sound?

Does any woodwork come in contact with the chimney?

Are any flue holes papered over, covered with wood or stuffed up with rags or paper?

Does the wallpaper come up against the stove pipe?

Are you over-heating the stove or furnace, or leaving draughts wide open?

Have you any metal receptacles for ashes?

Do you dump ashes on wooden floors or against wooden walls, partitions and fences? Do you deposit rags, waste paper and rubbish with ashes?

Do you keep the boiler room free from combustible rubbish? Safety along these lines means protection of your property and the lives of those dear to you; so inspect all these things and exercise due care.

THE VITAL TIME

In the larger cities, the fire fighters reach a fire in the business center in not more than five minutes after the alarm is received. In the residential section it takes from five to seven minutes for their arrival.

Between the time of the discovery of the fire and the appearance of the firemen, at least five minutes must elapse.

And that particular five minutes is the VITAL TIME in the life of the fire.

QUALITY FIRST!



MIXED CARLOADS

Our Modern Equipped Mill Enables Us to Meet Your Exact Requirements in Properly Manufactured

LUMBER

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MOULDINGS, SASH and DOORS, BOXES and BOX SHOOKS

Good Stocks on Hand Insure Prompt Shipments

J. HANBURY & CO. Ltd. - Vancouver, B.C.

It is the time when you, alone, may do more to save your property than the entire fire department can do five minutes afterward.

It is the time when the smallest blaze may gain sufficient headway to become a serious conflagration.

During these five minutes, the fire is the PERSONAL responsibility of the occupant of the building.

GALLON GASOLINE EQUALS 83 POUNDS OF DYNAMITE

Many automobile owners do not fully realize the danger connected with the careless handling of gasoline. They recognise the explosive power of the liquid, but few of them know how great the explosive power is. A writer in an automobile trade magazine seeks to make this clear and more impressive by comparing the explosive power of gasoline with that of dynamite.

He says that gasoline, even at a low temperature, constantly develops an explosive vapour. Five gallons of gasoline will generate 8,000 cubic feet of gas, which if ignited, expands 4,000 times. One gallon of gasoline, properly mixed with air and compressed, is equal to about 83 pounds of dynamite in explosive force. What makes gasoline particularly dangerous is the fact that it is more readily ignited and exploded than dynamite.—Popular Science Monthly.

Do not keep gasoline in the house. If you have a small quantity on hand keep it in a red can so that it cannot possibly be mistaken for coal oil. Never fill the tank of your automobile or tractor with gasoline by lamplight or any other open light. The risk to life and property is too great.

The attention of the ladies is drawn to the practice of gasolining clothes in the kitchen when there is a fire in the stove. Discontinue such a practice as it is extremely dangerous.

THE DUTY OF INSURANCE MEN

All the fire insurance companies operating in this province have well-organized agency plants. The local agent procures the business and the company looks to the agent to protect its interests as far as a satisfactory insurable risk is concerned. Every agent should keep the interest of the insurance business constantly in mind. If he does, then he must be a fire prevention enthusiast.

There have been cases where the agent has been lax in his underwriting and has taken applications for an amount greatly in excess of the real value of the property to be insured. This is termed over-insurance. What are the effects of such procedure? First, a needless expenditure of money on the part of the assured for protection that he could not possibly get in case of loss. The statutory conditions of fire policies are very clear on this point. The company is not liable for loss beyond the actual value destroyed by fire. Secondly, over-insurance is always a motive in incendiarism.

Our fire agents have a duty to the public and to the company. If our agents would inspect the property to be insured and would give suggestions to the applicant relative to the protection of his property, think of the confidence it would inspire in your client and also of the effect such suggestions would have in the matter of fire prevention.

Vancouver Engineering Works Limited

**ENGINEERS, BOILERMAKERS, STEEL, IRON AND
BRASS FOUNDERS, BLACKSMITHS, PATTERN
MAKERS, BOLT AND RIVET
MANUFACTURERS**



**Use "V.E.W."
Steel Castings**

and avoid costly shut-downs.

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Telephone Fairmont 240

Private Exchange

ARMSTRONG, MORRISON & CO.

Public Works Contractors

Office:

**814 and 815 Bower Bldg.
Granville St.**

**Warehouse and Wharf:
Beach Avenue**

Such action and also the inspection of risks already underwritten would tend to improve the risk, a matter of vital interest to the insuring company.

The hearty co-operation of our fire agents in this work of fire prevention is earnestly requested.

• ARE YOU PREPARED?

Fire gives no warning. No one can tell when or where it will break out. And it is this unexpectedness that makes the danger to life and property all the more terrible.

In 1918 millions of dollars' worth of property was consumed in flames and hundreds of lives sacrificed—all this in Canada alone.

Yet no other country in the world is so well equipped with fire-fighting apparatus or has such well-drilled men to handle it.



SOMEWHERE IN BRITISH COLUMBIA.

A young lad listened very intently to an address on fire prevention delivered to the pupils in his school. He was very much impressed by the statement of the speaker that numerous fires were caused by piles of trash and litter in the basement and discarded papers and magazines and other refuse stored away in the attic, and also by the remark that the chimney and stove pipes should be looked after at least once a year.

That evening the father came from his office, and hearing unaccustomed noises in the basement asked the cause thereof. "I don't know", replied the mother. "The son has been busy down there ever since he returned from school." Bent upon investigation, the father went downstairs and found the boy very busy in cleaning up piles of rubbish and putting the basement in order. "What's happening, lad?" the father asked. The boy turned loose on the afternoon address and gave his father a lecture on fire prevention. He concluded in the following manner:

"You see, Dad, I thought it was up to me to look after the basement, but believe me, when I finish this job, I am going to tell you and mother where to head in on the chimney and attic."

Canadian Factory: Toronto, Ont.

American Factory: Elmira, N. Y.

A. G. LONG

Portland, Oregon

GENERAL AGENT

American La France Fire Engine Company

for the Provinces of British Columbia, Alberta and Saskatchewan,
the States of Oregon, Washington, Idaho and District of Alaska.

The Verdict

Of those qualified by experience to judge—
Fire Chiefs and City Officials in general :

***More American LaFrance Motor Fire Apparatus
sold each year than all other makes
combined.***

Inquiries from above territory should be addressed to

A. G. LONG, General Agent, Portland, Ore.

The Fire Fighter



HOW many of those who read this article have ever bestowed ten or even five, consecutive minutes' thought on the life and calling of a fireman in the modern fire department of a great city? How many have looked on him in a light other than that which reveals him as the holder of a position for the pay that is in it, like other men? How many have weighed the cost of his risks and the exact amount of money that will compensate him for the snuffing out of his life in an instant, or that will sweeten the anguish of his widow and fatherless ones as they mourn over the home-coming that will never be?

These are thoughts that might well be considered on behalf of the firemen, for it is safe to say that he, himself, has never given five consecutive minutes to them in his life. That is, the real fireman—the man who fights fire as a soldier fights the foe, and who reads only victory and promotion in the smoke clouds and devouring flames of the fire king.

There is no room for the laggard, the shirker or the coward in a great modern fire department, just as there is no place for the man lacking in discipline, sobriety and whole-souled enthusiasm. If there is any place in the world's work where a perfunctory doer of things is most heartily abhorred, it is in the modern fire department of a large city.

The man who does things in and out of season in the right way has one of the qualifications of a good fireman. Character, the mental attitude of a man towards the right measuring up of his full duty and the doing of it with all his might, is an asset without which no man can be a successful fireman. Then there must be a fine physique and robust health, so that courage and persistence, which must be his, may have the driving power and the staying quality that will bring them into full play.

How many have estimated this magnificently equipped human fighting machine at his true value? And how many have stopped to think that he never fights to destroy, but always to save?



Aerial Ladder Drill
Vancouver Fire Department

It Ends in Smoke !

The curing and smoking of young grain-fed pork which by our expert experience of the business gives

Shamrock Ham

pre-eminence for its mild and delicious flavor.

"IT'S IN THE CURE"

P. BURNS & CO., LTD.

Vancouver

Calgary

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ROBERTSON & HACKETT SAWMILLS

LIMITED

Manufacturers of

**LUMBER, SHINGLES, SASH,
DOORS AND MILL WORK**

We deliver high-class material to local customers promptly.

Get our estimate on your requirements.

North End Granville St. Bridge
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Pacific Coast Pipe Co., Ltd.

1551 Granville St., Vancouver

Wire Wound Wood Stave Pipe, 2 in. to 24 in. diameter, for Fire Protection and General Waterworks.

Continuous Wood Stave Pipe, 2 ft. to 14 ft. diameter, for Hydro Electric Power Development.

Wood Tanks of all descriptions.

Wood Silos.

Precious human lives and less precious property are ever the objects for which he risks limb and life. Day and night in tempest or sunshine, in arctic cold or torrid heat, he is called upon to battle against the elemental force that is ever threatening death and destruction in our very midst. His strength is used to succor the weak, the wounded and the despairing. His courage, how often has it bridged the depths between life and death! And, just to think of it! His manful pride in doing his duty nobly has often led him into such agonizing straits, that it could be well and reverently said of him: 'He saved others; himself he cannot save.'

Our Firemen! Have they not proved themselves worthy again and again among the world's bravest and best? Heedless in Death's silence, these heroes seek no praise."



Self Propelled Steam Fire Engine
Vancouver Fire Department

Established in 1875

IMPERIAL BANK OF CANADA

VANCOUVER, B. C.

Capital Paid Up\$7,000,000
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HEAD OFFICE: TORONTO

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The Dominion Bank

Capital Paid Up.....\$6,000,000
 Reserve\$7,000,000

This Bank provides every facility for the prompt and efficient transaction of all kinds of banking business. Special attention given Savings Accounts, which may be opened with a deposit of one dollar.

Vancouver Branch:

THE DOMINION BUILDING

Corner Hastings and Cambie Sts.

Bank of Hamilton

(Established 1872)

Capital Paid Up.....\$ 3,000,000.00
 Reserve Fund 3,500,000.00
 Total Assets 77,404,120.61

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FIRST AID METHODS

What to Do Until the Surgeon Arrives

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ACID BURNS

In the event of burning with acids, the surface of the burned part should be carefully washed with water, holding under the water tap is best. If a mixture of baking soda and water, lime water or soap suds are at hand, one of these may be poured over the burned area to neutralize the acid. Cover the burned surface well with carbolated petrolatum and wrap with a fresh piece of gauze. If the burn is from carbolie acid, dress with the gauze and thoroughly saturate this with an antiseptic solution. In ordinary industrial plants the most common acids in use are nitric, carbolie, sulphuric, prussic, oxalic and muriatic, and the above treatment applies to all of these with equal force.

ACID IN EYE

For treatment, see—Eye.

ALKALI BURNS

If the burn is caused by an alkali wash as in burns from acids and give same treatment as in acid burns. If lemon juice or vinegar are at hand these may be poured over the burned area before applying the petrolatum in order to neutralize the alkalies.

ALKALIES IN EYE

For treatment, see—Eye.

ANTISEPTICS

It is quite proper to use any standard antiseptic solution according to directions, but none others should be applied except by the surgeon. Strong antiseptics, unless properly used, do more harm than good; they destroy tissue, delay healing and tend rather to favor blood poisoning than to prevent it. Blood is a very good antiseptic. The wound should be covered with gauze or the contents of a first aid package and a small portion of antiseptic solution may be used. Securely bandage with gauze or other uninfected covering.

APOPLEXY (OR STROKE)

Apoplexy occurs generally to people past middle age. The symptoms are insensibility, snoring breathing, the face is flushed and congested, the pupils of the eyes may be of unequal size, eyeballs insensible to touch and the pupils insensitive to light. One side of the body may be paralyzed. People found unconscious, motionless and speechless, with snoring breathing, may be suffering from narcotic poisoning or brain injury. Send for the doctor immediately,

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and in the meantime undo all tight clothing and allow plenty of fresh air. Lay patient flat with head slightly raised. Keep the body warm and apply hot-water bottle to soles of feet. Apply cold-water cloths to head, but on no occasion give stimulants. Never attempt to give an unconscious person anything to drink; it may go the wrong way and choke him.

ARM

Bleeding from injuries of arm. See—Hemorrhage.

Dislocation of bones of arm. See—Dislocations.

Fractures of bones of arm. See—Fractures.



This illustration shows the first movement in artificial respiration as in drowning. The rescued person is turned on his stomach, and one man places his hands across under the stomach and elevates the body in manner shown in order to force the water out of the lungs. The other man opens the mouth and pulls forward the tongue.

ARTIFICIAL RESPIRATION

See illustrations.

Artificial respiration is one of the most important subjects to understand in First Aid work as many people, seemingly dead, are restored to life by prompt efforts in artificial respiration. In cases of drowning, poisoning by gas inhalation, strangling, hanging, choking, following an electric shock, burying in grain, snow or landslide, etc., in fact, in any case where the supply of air to the lungs has been cut off, or where the patient is unable to expand the chest and breathe, artificial respiration is of untold value.

Remove the cause before doing anything else. Get the patient away from the gas; if he is hanging, cut the rope; if choking is caused by some foreign substance in the throat, get it out the first thing.

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There are two methods of restoring consciousness by artificial respiration. Use the one which best meets the situation.

Before starting either method, it should be seen to that the mouth, nose and throat are clear, and that nothing is there to prevent breathing. Mucous, blood, froth, chewing gum, tobacco, false teeth or anything else should be carefully removed.

Clothing around neck, chest and waist should be loosened. Place the patient on his stomach, full length extended on the floor, and then clasping him around the abdomen, lift up the body. To do this properly requires two men. Water or other foreign substances can often thus be removed from the lungs quite easily.



This illustration shows the second movement in artificial respiration as in drowning.—The patient is turned on his back and a pad placed between his shoulders and back in order to throw his chest upward. The men at each side grasp the arm nearest them at the wrist and elbow and bring the patient's forearms across the lower ribs and press them firmly against the chest. The third man pulls forward and outward on the jaw, and if the tongue falls back he opens the mouth, grasps the tongue and holds the tongue out.

Put the patient on his back, with a pad under the shoulders so as to raise the chest slightly. Then begin the movements to imitate natural breathing. These movements are designed to make the chest expand and contract. In short, it is simply the pumping of air in and out of the lungs to restore normal breathing.

It is advisable for one assistant to pull the patient's tongue out, wrapping a cloth about the member to keep the thumb and finger from slipping. The object of this is to keep the tongue from falling back into the throat and possible choking of the unconscious subject. The man who is thus holding the

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tongue should next place his other hand back of the angle of the jaw, forcing the latter forward and holding it in this position.

The arm movements to induce respiration are best carried out by having one man on each side of the patient, and each facing him. Let each one grasp the wrist nearest to him and the elbow, bringing the patient's forearms across the lower ribs and pressing firmly against the chest. This has a tendency to expel air out of the lungs.

Then the patient's arms are drawn up beyond the head, in a straight line with the body. This motion expands the chest and draws air into the lungs.



This illustration shows the third movement in artificial respiration as in drowning.—From across the lower ribs the arms are drawn well up and beyond his head until they are in a straight line with the patient's body as shown in the illustration. The third man continues to hold up and out on the jaw, and if necessary, holds the tongue out to keep from falling back into the throat.

With a little practice it will be easy for those giving this first aid treatment to get the hang of the motions, and these movements should be at the rate of about eighteen per minute. Keep both arms moving in the same direction and at the same time.

One Man Method.—If there is only one person present to assist in restoring respiration, this one-man method is often successful, and can be kept up for a long time without exhausting the operator.

First lay the patient on his stomach, with face turned to one side. Place the head of the patient just a trifle by means of a coat if nothing is available. Draw his arms away from the body, or extend them. This position of the body also has a tendency to permit the passage of air from the mouth and nose by the aid of gravity.

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The one giving the first treatment now straddles the patient's thighs and faces the patient's head. He puts his hands on the outer ends of the patient's lower ribs. Don't, however, put any pressure on the spine or hips.

The operator then brings his body forward slowly without bending his arms, and in such a manner as to throw his weight on the patient's sides.

This movement has a tendency to force the air out of the lungs. In applying the weight, it should be done gradually, and then quickly removed. The latter part of the movement thus allows the lungs to fill naturally with air. As in the other method just described, these movements should also be at the rate of about eighteen per minute.



The One Man Method of Artificial Respiration.
First Position—Pressure On.

But don't get discouraged if there is no immediate return of consciousness on the part of the patient. It generally takes about thirty-five or forty minutes to bring the victim back to a normal state, and there are numerous cases on record where the patients have been worked with as long as four hours, and life eventually been restored. Send for a doctor or a surgeon as soon as you can. Also get a pulmotor if there is one to be had.

While working over the patient, stop now and then and notice if he is making attempts to breathe. But above all, don't give up. Keep up the movements until you know the patient is dead, beyond all possible doubt.

Hot and cold towels may be applied alternately, slapping the chest with the same. Ammonia or snuff may also be held to the nostrils. Don't put these on the nostrils, however. Take off the wet clothing, if possible, and cover the lower limbs and abdomen with dry and warm coverings.

The first sign of life will generally be shown by flushed cheeks and a sigh. Just the minute the patient starts to breathe, the rescuer should adapt his movements to the patient's breathing, moving the arms above his head as he

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takes in air and across the chest as he expels the air. As soon as the patient is able to swallow he may be given a stimulant—a hot drink, such as broth, tea or coffee. Alcohol should never be given when the head is badly hurt or where the injured person has bled freely. Aromatic spirits of ammonia is a safe and reliable stimulant and may be given in the proportion of a teaspoonful to a half glass of warm water.



The One Man Method of Artificial Respiration.
Second Position—Pressure Off.

ASPHYXIA

See—Gas Poison.

BITES

Such wounds are given the same treatment as other wounds except in special cases. They are always to be considered serious and should be promptly and thoroughly treated. The wound should be encouraged to bleed freely by pressure and massage towards the opening, care being taken not to touch the wound itself. Permit its bleeding for a few moments and then place on the bite a piece of gauze from a previously unopened package, care being taken to handle the gauze only with the waxed paper which comes around it. Call the doctor at once. Syphilis may be contracted by the bite of a person who has syphilis.

BITES FROM ANIMALS

The animal may not be mad, i.e., rabid, but its teeth may convey poisonous matter to the blood other than that which produces hydrophobia. Therefore always wash the wound carefully with clean water. If the animal is known or suspected to be rabid, send for the doctor at once, and in the meantime, if the finger is bitten, grasp it with the other hand very tightly immediately above the wound, which prevents the blood carrying the poison into the body. If other parts of the hand or several fingers have been bitten seize the wrist

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and retain your grasp. If the wrist or forearm is bitten, seize the elbow and retard the circulation of the blood. Ask someone to tie a piece of string, handkerchief or necktie immediately below where you grasp the finger, wrist or elbow. Wash the wound well with warm water or hold under the water tap for a few minutes. A teaspoonful of carbolic acid added to a pint of water and well stirred makes a good lotion for washing a bite wound. If the bite is on the body or face the wound may be safely sucked if the person doing so has no fresh cracks on his lips or tongue. Wash the mouth afterwards with a strong antiseptic. Hydrophobia has often been prevented by prompt and efficient treatment.

BITES FROM SNAKES

When a person is bitten by a poisonous snake prompt action is necessary to save the life. Do not delay. If the wound is in the arm or leg grasp immediately above the wound as in animal bites, apply tourniquet or bandage around the limb just above the bite. Suck the wound until all the poison has been sucked out. The poison will not hurt the person doing the sucking. Take pocket knife and enlarge and deepen the openings made by the snake's teeth. Burn out the wound with a lighted match, hot coal or by rubbing in gun-powder and igniting it. Give stimulants.

BLEEDING

See—Hemorrhage.

BLEEDING FROM NOSE

See—Hemorrhage from Nose.

BLOOD POISONING

See—Infection.

BONES BROKEN

See—Fracture.

BROKEN NOSE

See—Nose.

BRUISE

Bruises when slight require no treatment. For bruises of moderate degree apply hot or cold water or some good antiseptic solution. One should remember when a bruise is severe that it may be the least important part of the injury. Be sure there are no fractures. Severe bruises of the chest or abdomen may result in injuries to internal organs and may require the prompt attention of the surgeon to save life.

BULLET WOUNDS

If the wound be of an arm or leg, and no bones have been fractured nor severe bleeding taken place, treat as a punctured wound. (See Punctured Wounds), and send for a surgeon. If the wound is severe or bullet has entered the head, chest or abdomen, place a piece of sterile gauze over the point of

entry of the bullet, call an ambulance, and hurry to the nearest first-class hospital. Don't worry about the bullet, leave that to the surgeon.

BURNS AND SCALDS

Cut pieces of clean linen and soak them in oil or a mixture of equal parts of olive oil or linseed oil and lime water, and apply the strips to the burn or scald. Cover this dressing with cotton wool or flannel and retain all with a bandage firmly but not tightly applied. Do not break or cut the blisters. The severity of the injury may cause the clothing or underclothing to stick to the skin. Never drag these off but soak with oil, such as salad, sweet or linseed oil. Never expose a burn to the air. Get your dressings ready before you uncover the burn. If the hand be burned, put it into a basin of luke warm water while the dressings are being prepared: a little soda may be applied to the water.

For burns caused by acids. See—Acid Burns.

For burns caused by alkalies. See—Alkali Burns.

For burns of the eye. See—Eye.

BURNING GARMENTS

If your clothes catch fire, don't run. Lie down on the floor or ground and roll up in a carpet, rug, overcoat, blanket, table cloth or anything handy. If there is nothing to wrap yourself in, lie down and roll over slowly, using the hands to beat out the fire. If some other person's clothing takes fire, throw him on the floor and smother flames with overcoat, rug or blanket.

CARBOLIC ACID

Be careful of carbolic acid, for it is a dangerous drug even when used in the weak solutions. Numerous cases are known where fingers have required amputation following the wrapping of the injured fingers in a 5-per-cent. solution of carbolic acid on gauze, and patients have been known to die from this cause.

CHOKING

When anything has lodged in a person's throat, causing him to choke, give him an opportunity to cough it up himself to relieve the choking. If this does not work, have him lean well forward until the head hangs down low and then strike him a smart blow between the shoulders. This will often dislodge the substance. If it fails, call the surgeon advising him the nature of the trouble so he will come prepared with the proper instruments to give quick relief.

COLIC

A sudden severe pain in the abdomen should always receive serious consideration. It may be caused by a rupture, appendicitis, a constriction of a piece of intestine in a previously existing rupture, perforation of an ulcer in the stomach, etc. The surgeon should be called at once. The pain may be caused by indigestion or errors of diet.

COLLAPSE OR SHOCK

Burns, broken bones, blows on abdomen, loss of blood and all severe injuries produce this condition. The patient shivers, face becomes pale and surface of body cold, the pulse is feeble and irregular and the breathing feeble and shallow. The patient sighs and is only partially conscious. Do not raise the patient, keep the head low, apply extra clothing or covering and put hot water bottles to the body and rub the arms and legs. If conscious, give warm drinks of hot tea, coffee or hot milk. Stop any bleeding and if breathing has ceased you must resort to artificial respiration.

COLLODION

Never apply collodion or so-called "new skin" over fresh cuts or wounds. It keeps the germs within the wound and gives them a favorable chance to multiply and grow.

CONCUSSION OR STUNNING

Usually is the result of a blow or fall, the patient is insensible; a weak, flickering, irregular pulse; face is pale, skin cold and often clammy, breath sounds so quiet that it is sometimes difficult to see that the patient is breathing. It is common for the patient to vomit when recovering. Send for the doctor immediately and in the meantime lay the patient absolutely flat, undo all tight clothing and allow plenty of fresh air. Insist on quiet and do not attempt to rouse. Keep the body warm and if sick, turn the head to one side. Do not give stimulants.

CONVULSION

These occur most commonly in attacks of epilepsy. Lay the patient on the floor and hold him still to keep him from injuring himself when he throws himself about. The patient should soon recover from the attack and the blueness and bloody froth from the mouth should not frighten you. See—Epilepsy.

CONVULSIONS IN CHILDREN

Place the child at once in a warm bath up to the waist. In your haste and excitement beware of the risk of scalding the child. Keep him in the bath from ten to twenty minutes. Apply sponges wet with cold water to the head. Repeat these if necessary.

COTTON

Do not put cotton next to fresh wound. Gauze should be put on first and then the cotton, as the latter is hard to remove from wound. Cotton is valuable in padding splints and in applying over gauze as an extra protection.

COLLAR BONE FRACTURE

See—Fracture.

CUTS

Cuts should not be neglected. Blood poisoning frequently comes from them. Don't touch them or let others do so.

If bleeding is not severe, let wound bleed a reasonable amount by pressure and massage toward wound. Apply piece of gauge and bandage firmly. This will stop the bleeding in most cases. Never suck a wound of this kind and never put a chew of tobacco or cobweb or the like on it. Lockjaw and various other infections have followed such treatments.

If the cut bleeds profusely lay the patient with head low and keep him quiet. Aromatic spirits of ammonia may be used if he feels weak. Keep the body warm. Bandage with gauze promptly and call the doctor at once. Do not attempt to remove the dressings yourself but have them removed and the wound re-dressed by a surgeon.

DEATH

In case of sudden or accidental death, notify the surgeon at once. Cover the body with a sheet. Notify the relatives and in doing so use judgment and tact.

DISLOCATIONS

A dislocation exists when a bone slips or is driven out of its socket or joint. The joint has an unusual appearance, the length of the limbs does not correspond, sometimes the injured one is shorter and sometimes it is longer than the uninjured. Do not pull or permit others to attempt to pull a joint into place as severe and lasting damage to a joint may be done. Send for the surgeon at once and in the meantime make the patient as comfortable as possible by having him lie down and covering the injured joints with cloths wrung out of very hot water. If the patient is very weak or faint, treat for collapse or shock.

DRESS ON FIRE

It is not generally known that Flannelette is highly inflammable. In England bitter experience has led the authorities to pass a law making it a crime for anyone to clothe their children in flannelette. Where the dress is on fire it is of the utmost importance that you lie down at once, otherwise the face, eyes, etc., will be severely burned. If patient is running about terrified pull her down and throw rug, blanket, table cover or sheet over the flames, or take off your coat and use it. Rolling on the floor will assist in extinguishing burning clothes. If in a room alone, a woman whose dress is on fire, in order to prevent burning her face and neck, should lie down and crawl to the nearest rug, sheet or cloth with which to smother the flames.

DROWNING

Immediately after removal from the water, lay patient face downwards with arms stretched out in front of the head, and the face turned to the side. Waste no time in removing or loosening the clothing. The movements of artificial respiration are of the first consequence. See—Artificial Respiration.

EAR

When a foreign body gets in a person's ear, try to shake it out. If this is unsuccessful, take the patient to the surgeon. Never try to remove by use

of any instrument as it is far less dangerous to leave the substance in the ear than it is for you to attempt to take it out. If a bug or insect gets in the ear, fill the ear with sweet oil or glycerine to kill the bug. Then wash out ear with warm water.

ELECTRIC BURNS

Burns by electricity are treated the same as other burns.

See—Burns and Scalds.

ELECTRIC SHOCK

First of all, rescue the patient, but be careful. If possible, shut off the current.

The one doing the rescuing must look out to protect himself from shock. It is a good plan to cover the hands with a rubber sheet, gloves, rubber coat or several thicknesses of silk and stand on a dry spot or dry piece of wood. Use an axe with a dry, wooden handle to cut the wire. If the patient is across two wires make a short circuit by putting an iron bar, wet cloth or poker across the wires between the injured person and the source of the electric current.

Move the patient to some place where there is plenty of fresh air. Loosen clothing; put him on back with rolled up coat under shoulders to throw chest up. Even if he has ceased breathing, life may be saved. Give treatment for Artificial Respiration (see illustrations). Send for surgeon. (Get a pulmotor if one is to be had. If patient has not ceased breathing, treat as for shock and give stimulant.

Accidents arising from electricity are common about mines where the current is utilized as an operating force. Ordinary trolley wires carry about 500 volts. Incandescent and arc-light wires carry from 2,500 to 3,000 volts. Contact with a live wire and the passage of the powerful currents through the body cause dangerous shocks, burns and even death. Trolley wires should be protected and other live wires carefully insulated.

The symptoms of electric shock are, a sudden loss of consciousness; absence of respiration, or if present, very light and possibly not observable; very weak pulse; burns at point of contact.

Always rescue a sufferer as quickly as possible, but avoid getting in contact with the live wire. Look for the switch and throw it. If none is convenient break the circuit with a drill or any piece of wire that will connect the trolley wire and rail at the same time. Such action may cause injury to some other part of the mine, or wiring system, but when human life is being risked the question of life should come first.

EPILEPSY

The patient falls unconscious and may scream and shout. His arms and legs twitch in violent convulsions, the hands are tightly clenched and face contorted; froth is at the mouth which is sometimes bloodstained. Clear away

all furniture to prevent him from injuring himself, undo his collar and tie and raise his head. Place a leadpencil or something hard between his teeth to prevent him biting his tongue. Do not restrain movements and do not attempt to give anything to drink, or stimulants. After a few minutes of violent convulsions patient will fall asleep or will recover consciousness but may be in a dazed condition.

EYE

If foreign bodies get into the eye and rest on the eye-ball, or inside the eye-lid, the tears will generally wash them out. Don't rub the eye. Pull upper lid down over the lower one and hold in that position for a short time. This helps the flow of tears. Blowing the nose sometimes gives relief. A little clean cotton on a toothpick may be used if the object is located. Look first in the lower lid. Next turn back the upper lid over the end of a match as shown in the illustration. If the substance cannot be easily removed, go to a doctor immediately. Don't let any one use an instrument save the surgeon. Otherwise there may be blindness induced by infection.

If the eye-ball is cut, cover both eyes with clean gauze and bandage loosely. Wet bandages with cool water till surgeon comes.

Acid in Eye:—For acid in the eye, apply copious quantity of water and see surgeon at once. If near a druggist a few drops of two-per-cent. cocaine may be put into the eye to deaden pain.

Alkalies in Eye:—Treat the same as for acid in eye.



Method of turning upper lid of eye to search for or to remove particle from inner surface of lid. First grasp eye lashes of upper lid and pull downward and forward. Place handle of pen-holder or similar object across outer surface of lid and turn lid up over pen-holder.

FAINTING

Lay patient down with head lower than the body, elevate arms and legs to make blood go to the head. Loosen tight clothing around neck, chest and waist. Keep the crowd back and give plenty of fresh air. Dash cold water on the face and bathe face and hands with cold water. Hold smelling salts to nose. If not successful in restoring consciousness, call a doctor. When patient comes to, keep him lying down until he has fully recovered. He may then be given a drink of cool water or a cup of hot tea or coffee.

FRACTURE

A fracture is the same as a broken bone, and the treatment, of course, will depend to a large extent upon the location and seriousness of the fracture. Send for the surgeon. If it is a broken leg or thigh, be very careful as the ends of broken bones are usually sharp and if the limb is moved the sharp ends may cut important blood vessels or nerves, or may cut through the skin. Do not attempt to move the patient until temporary supports or splints have been applied. (See—Moving the Injured.) In an emergency the best splint is the one most easily and quickly secured. A piece of board, umbrella, walking stick, broomstick, lath, billiard cue, or anything of a like nature will do. Tie one of these firmly to each side of the limb, bandaging with handkerchiefs, straps, rope or heavy string. When the thigh is broken one support must extend as one solid piece from the foot to the armpit and should be bandaged firmly at the chest as well as at the limb. When the leg below the knee is broken the supports should extend from the heel to the middle of the thigh. Now the patient can be moved lying at full length and if a stretcher is not handy use a flat board or a door, gate, shutter, etc.

In the case of broken ribs it is advisable to bandage firmly around the chest with a towel or a piece of cloth and then fasten a second bandage a little lower, so as to overlap the first. These will limit the breathing, support the chest and diminish the pain. Always place the arm of the injured side in a sling.

In case of broken back or injury to the spine if possible do not attempt to move the patient until the doctor comes. In any case the patient must be kept absolutely flat and never raised, for to bend the spine will do irreparable injury.

In the case of a broken collar bone, put one or two small handkerchiefs rolled tightly into a ball into the armpit of the injured shoulder. Apply an arm sling and bandage the elbow of the injured side firmly to the chest, the bandage going entirely around the chest at the level of the elbow.

For applying temporary splints, see illustrations.

In the case of a broken arm apply the best kind of a temporary splint possible, but they must be short so the arm can be bent at the elbow and put in a sling.



Method of applying splints in case of fracture of the upper arm. The splints are padded with cotton, and are then held in place by bandages as shown. A sling is improvised for holding the injured's wrist in comfortable position.

FEET

In case of injuries to the feet keep patient off his feet. Trying to walk on injured foot often does serious harm. Dress injuries here same as other parts of the body, using a piece of clean gauze over the wound, bandage and send for the surgeon. If patient has stepped on a nail, remove nail at once. If it is a sliver in the foot, remove it if it can easily be done, otherwise wait for the surgeon. Nails and slivers in feet often prove to be serious through infection. Take no chances, but follow your surgeon's instruction.



This illustration shows the proper method of applying splints in case of fracture of the wrist or forearm. The splints are padded with cotton and one is applied to the back of the arm and the other to the front of the arm. The splints are then held in position by bandages as shown in the illustration.

FITS

See—Convulsions.

FROST BITE

Do not use warm water or heat at once, as this may do harm to the frozen parts. Bathe the part with cold water and rub gently for some time, then gradually add warmer water.

GAS POISON

Get patient to a place where there is plenty of fresh air at once. Open all windows. Send for the doctor. If the patient has ceased breathing, begin artificial respiration (See Artificial Respiration) at once. Give stimulants as soon as patient is able. (See Stimulants). Do not permit any gas or oil lights

in the room where the patient is. In cases of poison a pulmotor is of great service. Phone for one or when you call the doctor ask him to order one right away.

HANGING

Act at once, do not wait for help. Catch hold of patient's waist, cut the rope and lower the patient carefully. Begin artificial respiration. (See Artificial Respiration).



This illustration shows the method of applying a splint in case of fracture of the lower leg or ankle, or injuries to the knee. A board is placed on the outer side of the leg and is held in place by roller bandages. In fractures of the leg it is best to put a splint on each side of the leg and bandage together.

HEAT STROKE OR HEAT APOPLEXY

This is not the same as "Sunstroke" and requires a somewhat different treatment. Heat stroke is a collapse caused by long exposure to a high temperature, but not directly in the rays of the sun. It may even occur at night, in engine rooms or other places where the heat is excessive. The sufferer is greatly depressed, but not unconscious, face is pale and covered with clammy sweat, breathing is shallow and pulse weak and rapid. Send for the doctor. First remove to a cool place and give cool drinks. Loosen clothing, especially around the neck, and bathe hands, head and chest with cold water. Cloths soaked with cold water or ice may be applied to head and forehead.

HEMORRHAGE

Hemorrhage means bleeding. An ordinary amount of blood flowing from a wound is rather to be desired than prevented. This clears out the dirt from

the wound, and blood itself is of aid in killing some forms of germs. Wounds that bleed only slightly are called punctured wounds. They are more dangerous than where blood flows freely.

Bleeding comes from the veins or arteries. In arterial hemorrhages the blood squirts out just like coming from a fountain, and comes faster and with more force than from the veins. It is bright red in color. If the bleeding is severe, send for the doctor at once. Put a fresh piece of gauze over the wound and bind firmly. If this does not stop it put a tourniquet between the point of bleeding and the heart and twist tightly so as to stop the bleeding. (See—Tourniquet). Keep on turning it tighter until the blood stops. Don't tighten after that. It is best to apply the tourniquet over the clothing. Don't leave the tourniquet on for more than one hour without loosening and then tightening again.

Punctured wounds are made by such things as nails, broken glass, slicers, knives, toy pistols, etc. After the removal of the cause the skin generally closes up the opening, keeps in the germs, and infection frequently follows. Don't ever put a probe in such an injury. Send for a surgeon and let him remove the small particles of foreign matter, or do the probing if necessary. If possible, encourage the wound to bleed by massaging or pressure toward the wound. After bleeding, cover with a first aid package, and bind securely with a fresh, clean gauze.

Don't neglect having such injuries treated by a surgeon. They are apt to bring on lockjaw. If the surgeon wants to open a wound let him do so. If he thinks it best to give anti-tetanic serum by all means take it.

HEMORRHAGE FROM NOSE

Ordinary nose bleeding is not harmful. Keep patient quiet, sitting in chair with head hanging backwards; don't blow the nose; ice may be applied to side of nose, or back of neck. Hold a piece of ice in the mouth; a roll of paper under the upper lip and pressed firmly against the gums will frequently give quick relief. If the bleeding keeps on for more than a quarter of an hour it is best to summon a doctor.

HEMORRHAGE—INTERNAL

Hemorrhages of this kind may come from very deep cuts or wounds, or from the breaking of a blood vessel following some violent external blow or fall. Internal bleeding is always serious and must be promptly treated. Call a surgeon at once. If the blood comes from the lungs and is coughed up, it is bright red. If it comes from the stomach it will be dark colored.

If the blood comes from lungs or stomach, have the patient lay down, loosen clothing around neck and chest and apply cold cloths where you think the blood is coming from. Put hot water bottles, or hot bricks, about patient. If weak, give mild stimulants, such as hot coffee, tea, broth or aromatic spirits of ammonia in hot water. Patient must be kept quiet.

If bleeding is in the brain, have patient lay down. Elevate head and shoulders on pillow. Put cloths wrung out of ice water on head; but don't give any stimulants.

HERNIA

Generally called rupture. It is an opening in the abdominal wall through which the intestine or other organ may escape just beneath the skin. Commonly appears in groin, but sometimes at the navel. Should be cured by operation. When hernia occurs, a soft, round swelling appears. That is the intestine pressing against the skin. This can generally be pushed back into the abdominal cavity. Have patient lie down on back and bend up knees and thighs. Lay a hot cloth wrung out of hot water on the swelling and by gentle pressure work intestine back into opening in abdominal wall. Be easy. Don't use force. If you can't accomplish it, send for a surgeon. Never permit hernia to continue without medical attention for the strangulated intestine may die from pressure and finally cause the death of the patient.

"DON'TS" TO PREVENT HERNIA OR RUPTURE

- Don't try muscular feats beyond your strength.
- Don't try to move objects too heavy for you. Get help.
- Don't lift when standing in awkward positions.
- Don't strain your back when lifting—use your legs.
- Don't squeeze your waist with a tight trouser belt. Wear your belt low so that any pressure from it will come on hip bones.
- Keep your bowels open so as to avoid straining at stool.
- Hold your shoulders square and your back flat. Don't slump.
- Strong belly muscles and a good posture of the body are best material safeguards against hernia.
- If you have hernia wear a belt to hold it up and prevent strangulation. Strangulation sometimes results in death.

HYDROPHOBIA

Hydrophobia. See—Rabies.

HYSTERIA

Generally known as Hysterical Fits and most common in nervous girls and women. The patient falls generally carefully; never loses consciousness, faints, nor hurts herself. She will have sudden violent irregular attacks of screaming, howling and kicking. She may laugh and cry by turns, the hands are clenched and she grinds her teeth. She does not always entirely close her eyes, but prefers to watch the effect of her conduct. An hysterical attack is not a feigned illness, but a diseased condition where nerve control is for the time diminished. On no account are you to hold or rub patient's hands, restrain her movements or sympathise with her in any way. Flick the face with a wet towel or a dash of cold water on the face will help. It is usually best to leave patient absolutely alone from the first, send all friends away, and when she finds herself alone and no fuss being made over her she soon recovers her will

power. Hysteria is a disease, often associated with poor health, and a doctor should be consulted.

INFECTION

Often called Blood Poisoning. It is caused by pus germs getting into cuts and wounds. These germs are present on skin, clothing, etc., which is the reason you should never touch a wound with the fingers. Cuts from razors or sharp instruments are less apt to become infected than jagged or torn wounds. Punctured wounds such as are caused by stepping on a nail are most dangerous, as the germs are forced in at the time of injury and have little chance to escape. The wound closes up when the nail is removed, so the germs remain in and grow and cause a bad infection. Wounds of this kind no matter how trivial, should receive prompt medical attention. Have your doctor dress it. Even the slightest infections very often prove fatal. We often hear where a man of prominence has neglected a slight cut or scratch, blood poisoning follows, and he dies in a few days from general blood poisoning.

To avoid infection and blood poisoning keep the following "Don'ts" in mind and observe them:

- Don't neglect a wound where skin is broken
- Don't touch or put finger on or in wound.
- Don't let clothing touch wound.
- Don't use strong antiseptics.
- Don't use court plaster, cob-webs, tobacco, axle grease, engine waste, etc., over any kind of wound or scratch.
- Don't fail to call surgeon if injury is serious.

JAW

Broken Jaw. See—Fractures.

Dislocated Jaw. See—Dislocations.

LEG

Bleeding from Leg. See—Hemorrhage.

Dislocation of Leg. See—Dislocations.

Fractures of Leg. See—Fractures.

LOCKJAW

Is caused by the tetanus bacillus getting into wounds at time of accident. Lockjaw is more often caused from punctured wounds than from cuts. Wounds caused from rusty nails or from accidents received around dusty factories, barns, gardens, manure piles, etc., are most apt to cause lockjaw. It is also often caused from wounds from guns or blank cartridges where the wad is blown into the tissue and remains there. Treat same as punctured wounds. (See—Punctured Wounds.)

MAD DOG BITES

See—Rabies.

MOVING THE INJURED

Care and judgment should be used in moving an injured person. If the surroundings are at all favorable it is always advisable to apply first aid before the patient is moved any great distance. In cases of fracture it is far better to apply a temporary splint to the injured extremity before moving the patient. Great injury may result from the careless handling of patients who have sustained a fracture. The best splint or support in emergencies are those most easily got, such as umbrellas, walking sticks, a broom-stick, lath, piece of wooden box, billiard cue or a policeman's club. Tie one firmly to each



The above illustration shows the proper way of carrying an injured or unconscious person. The arms are passed well in beneath the body so that the person being carried is held close up against those who are carrying.

side of the limb with handkerchiefs or bandages of any kind. If possible, move the patient lying at full length, using a stretcher, door, shutter, gate or anything that is handy. When moving the patient without litter, two or three men, all on the same side of the patient, kneel on one knee, the other foot being kept on the ground. Passing their arms well under the patient, they carefully lift him onto the upright knee, all lifting together. Here they pause for a moment, pass their arms further under patient and then rise. See above illustration. By keeping the patient close up to their chest, he is easily carried. In lowering patient, the carriers first kneel on one knee and rest the patient on the upright knee, then adjusting their arms they lower patient to the ground. If patient is not unconscious, he may be carried by two men forming

a seat with their hands and then having him sit on the seat and hold to the carriers by putting an arm around each. Injured persons can be very easily carried in a chair, even if in an unconscious condition. See illustration below.



A person who has been injured or who is in an unconscious condition can be carried in a chair as shown in this illustration.

NAILES

Injury by nails is very common and sometimes very dangerous. Treat as punctured wounds. (See—Punctured Wounds). An injury from a rusty nail should always be treated by your doctor, otherwise infection and later lockjaw may be the result.

NOSE

Broken Nose. Always go to a doctor. Permanent deformity and interference with breathing may follow if neglected.

Bleeding from Nose. See—Hemorrhage.

Foreign Bodies in Nose. Do not attempt to remove, as this is the work of a doctor. To attempt to remove by a hairpin or tweezers may cause serious inflammation and injury.

POISONING

There are so many different kinds of poison and poisoning that it is impossible to give a uniform treatment that will cover all cases. First of all send for the doctor, and if possible, advise him of the kind of poison taken so he can

bring the proper antidote. While waiting for the arrival of the doctor the following rules should be pursued and life may often be saved.

If lips and mouth are burned (as a general rule), give no emetic; that is, cause no vomiting.

If a mineral acid has been swallowed, give alkalies such as magnesia, baking soda, powdered white crayon or soap suds; or give raw eggs, milk or oil. Don't give emetic.

If carbolic acid has been swallowed, give brandy, whisky, or dilute alcohol freely and follow this with an emetic.

If a strong alkali or caustic has been swallowed give milk or oil, or some hard cider, vinegar or lemon juice. Do not give emetic.

If antiseptic tablets have been swallowed give the whites of several eggs and then an emetic.

Good Emetics. Have patient drink a large quantity of mustard water (two tablespoonfuls to quart) or salt water (one tablespoonful to quart), and stick finger down throat to start vomiting. Repeat soon if not sick. In the interval sip lukewarm water.

PUNCTURED WOUNDS

These are small, deep wounds usually caused by a nail, pieces of glass, punch, sliver, knife, toy pistol, etc., and the skin usually falls back into place, and in this way any germs that may have been forced into the wound are held in there and have every opportunity to grow and multiply, thereby causing infection. Never put a probe into a wound of this kind. Small particles are liable to remain in punctured wounds, but leave their removal to the surgeon.

Always have these wounds treated by a surgeon. They are dangerous and many people have died following the neglect of proper treatment. If possible encourage the wound to bleed freely by massage and pressure toward the wound. Afterwards cover it with a piece of gauze. Lockjaw is usually caused from punctured wounds, especially those received around barns or gardens, so if your surgeon decides to cut open and enlarge the wound, permit him to do so.

RABIES

Rabies or hydrophobia is a disease caused by the bite of a mad dog or of another animal which has been bitten by a mad dog. A dog bite should always be considered serious and a doctor consulted. If the dog is not mad, or becoming mad, rabies will not develop in the bitten person. Never kill the dog until you are sure he is mad. Catch him and turn him over to a veterinary for observation. If the dog does not become mad within a week, then he has not given you the rabies and you are in no great danger, but your wound should receive the same treatment as other bites. See—Bites.

If the bite is from a mad dog or from one that becomes mad within a week, the person bitten should be given the Pasteur treatment at once. If given in time this treatment will save the person's life.

RUPTURE

See—Hernia.

SHOCKS BY ELECTRICITY

See—Electric Shock.

SLIVER

See—Punctured Wounds.

SNAKE BITES

See—Bites by Snake.

SPRAINS

The joint must be kept at perfect rest. If pain is severe pour cold water on it or apply a towel or handkerchief dipped in cold water. Call a surgeon as the sprain may be serious and must not be neglected. If the ankle is sprained the patient should not walk a step. Elevate the limb. This sends the blood away from the injury and relieves much of the pain. It may be a fracture or dislocation. See—Fractures and Dislocations.

STAB WOUNDS

See—Punctured Wounds.

STIMULANTS

Aromatic spirits of ammonia is one of the best and safest stimulants. It is usually given one teaspoonful in one-half glass of warm water.

Hot drinks such as coffee, tea or broths.

Brandy or whisky. If given do not give too much. Give one drink and do not repeat. Too much alcohol is depressing. Do not give when head is severely injured or where hemorrhage occurs.

The use of brandy or whisky as a stimulant is fast becoming a thing of the past. Many leading physicians the country over advise against it, and in many of the largest hospitals brandy and whisky are rarely used. Hot coffee, tea or broth, or aromatic spirits of ammonia are used instead, with better and safer results.

STINGS OF INSECTS

These are really very slight wounds, into which poison has been introduced, with the production of a considerable amount of irritation. For mosquito bites, ammonia is the best remedy, as the poison is an acid. The same remedy is also good for other insect bites and stings. The sting should be pulled out if it sticks in the wound. Afterwards cloths moistened in cold water, wet salt or wet clay will relieve the burning.

SUFFOCATION

See—Artificial Respiration.

SUNSTROKE

This comes from being exposed to the hot sun on a very hot day. Send for a doctor the first thing. Place patient in a cool place. Remove clothing as much as possible. Put ice on head and chest or wrap in sheets wrung out of ice water and kept cool by frequent wetting with ice water. Care must be exercised by constant rubbing to avoid shock. Cease the cloth applications as soon as the patient becomes conscious.

If one feels symptoms of sunstroke coming on he can often prevent it by stopping work, going to a cool place, lying down, bathing head, chest and arms in cold water, and drinking freely of cold water.



Method of applying a tourniquet to the arm to stop bleeding from any portion of the arm below where the tourniquet is applied. The pad is placed over the main artery supplying the arm and hand. Twist tourniquet until bleeding stops. Do not tighten beyond this point. Do not leave tourniquet on for more than one hour without loosening and again tightening if necessary. The tourniquet is best if applied over the clothing.

TETANUS

See—Lockjaw.

TOURNIQUET

Where an artery has been cut or severed and the bleeding is severe a tourniquet should be used. Bleeding from an artery is indicated by the strong spurt of blood and the bright red color. When an arm or leg is badly cut or severed, a tourniquet should be immediately used and applied sufficiently

tight to stop all bleeding. Unless pressure is sufficiently great to stop the bleeding, more damage may be done than if no tourniquet is used at all.

In applying the tourniquet, care should be taken to apply the pressure directly on the artery between the wound where the bleeding occurs and the



Method of applying tourniquet to leg to stop bleeding from any portion of the leg below where the tourniquet is applied. Pad is placed over the main artery supplying leg and foot. Twist tourniquet until bleeding stops. Do not tighten beyond this point. Do not leave tourniquet on for more than one hour without loosening and again tighten if necessary. The tourniquet is best if applied over the clothing.

heart. This can be done by inserting a tightly-wound piece of roller bandage or any other material under the tape of the tourniquet in order to place the pressure upon the artery. Use your thumb or fingers first and locate the exact spot where the pressure must be made to stop the flow of blood, then apply the tourniquet and draw it sufficiently tight to stop the bleeding. See the illustrations for the manner of applying the tourniquet over the clothing. In the absence of a tourniquet, which is nothing more than a piece of tape, a strong bandage or piece of cloth may be used with equally good results.

To stop bleeding from Scalp—Apply the tourniquet around the head just above the eyes and ears and well down on the back of the head. Apply pressure on arteries just in front of each ear.

To stop bleeding from Hand and Arm—Apply tourniquet to the upper arm, placing the pressure over the artery as shown in the illustration.

To stop bleeding from Leg or Foot—Apply tourniquet just below the groin at the pressure point, and in the manner shown in the illustration.

UNCONSCIOUSNESS OR INSENSIBILITY

In case you find a person unconscious you should call the doctor at once. In the meantime examine for injuries and treat accordingly.

If any excessive bleeding, treat for hemorrhage. See—Hemorrhage.

After an accident, especially where the head has been injured, and the patient is unconscious, with weak, flickering pulse and shallow breathing, suspect concussion or stunning. See—Concussion or Stunning.

When a patient becomes suddenly unconscious, with cold, clammy sweats and a feeble pulse, he has probably fainted. See—Fainting.

When a patient is unconscious, and the whole body convulsed, suspect epilepsy. See—Epilepsy.

After sudden unconsciousness, where only one side of the body is limp, and where there is a loud snoring breathing, suspect apoplexy. See—Apoplexy.

It may be from poisoning. If so, see—Poisoning.

CARELESSNESS

Carelessness is the next factor in industrial accidents, and is the cause of many avoidable injuries. In fact it can safely be said that carelessness in some form or other is responsible for more accidents than any other specific cause. Carelessness sometimes takes the form of downright recklessness, although it is more frequently manifested as mere thoughtlessness or indifference.

Every workman should be thoroughly impressed with the fact that his safety and the safety of his fellow workmen depends upon his own carefulness. He must consider the result of every movement when he is engaged in work of a hazardous nature, or when he is operating a dangerous piece of machinery. A workman who is reckless in his movements is as dangerous around a workshop as an unguarded machine and should be employed only where he cannot jeopardize himself or his fellow-workmen.

IN APPRECIATION



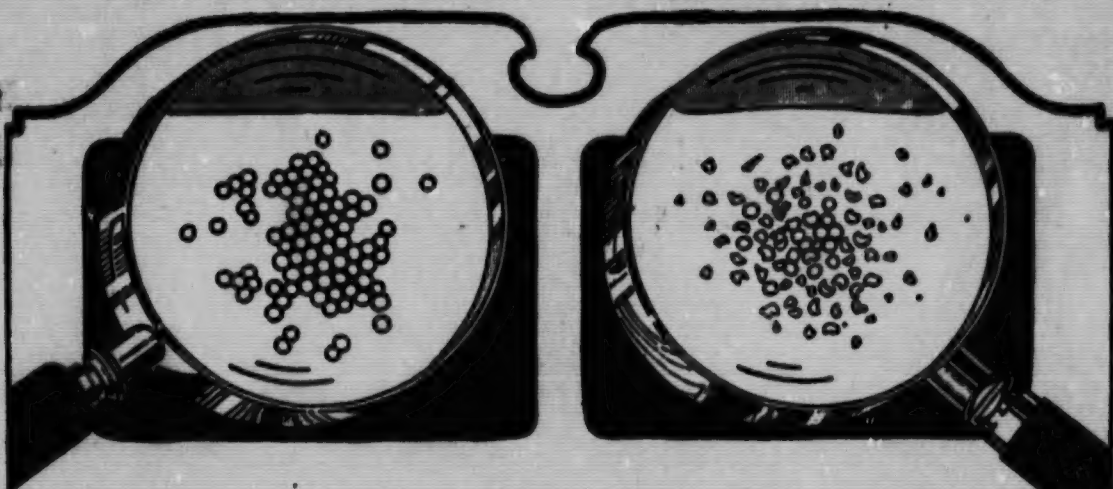
THE publishing of this book of instructions in *Fire Prevention and First Aid Work* has been a success from every standpoint, and the Vancouver Firemen's Benefit Association desires to express its thanks to all who have extended their support. The advertising patronage has been liberal and many concerns and individuals have subscribed for copies to be distributed among their friends and employees.

We believe we have produced a book that will be appreciated by those receiving it; a book which we hope will awaken our people to the great importance of giving more attention to the prevention of fires.

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